

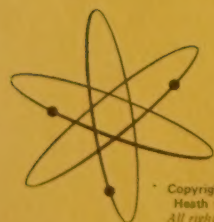
PRICE \$2.00

HEATH COMPANY • BENTON HARBOR, MICHIGAN

HEATHKIT® ASSEMBLY MANUAL



INTERCOM INDOOR REMOTE STATION
MODEL GD-120



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Heath Company
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595-1310-01

Dear Customer:

The Heathkit electronic product you have purchased is one of the best performing electronic products in the world.

Here's how we aim to keep it that way:

Your Heathkit Warranty

During your first 90 days of ownership, any parts which we find are defective, either in materials or workmanship, will be replaced or repaired free of charge. And we'll pay shipping charges to get those parts to you — anywhere in the world.

If we determine a defective part has caused your Heathkit electronic product to need other repair, through no fault of yours, we will service it free — at the factory, at any retail Heathkit Electronic Center, or through any of our authorized overseas distributors.

This protection is exclusively yours as the original purchaser. Naturally, it doesn't cover damage by use of acid-core solder, incorrect assembly, misuse, fire, flood or acts of God. But, it does insure the performance of your Heathkit electronic product anywhere in the world — for most any other reason.

After-Warranty Service

What happens after warranty? We won't let you down. If your Heathkit electronic product needs repairs or you need a part, just write or call the factory, your nearest retail Heathkit Electronic Center, or any Heath authorized overseas distributor. We maintain an inventory of replacement parts for each Heathkit model at most locations — even for many models that no longer appear in our current product line-up. Repair service and technical consultation are available through all locations.

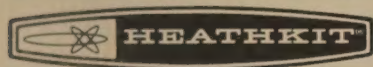
We hope you'll never need our repair or replacement services, but it's nice to know you're protected anyway — and that cheerful help is nearby.

Sincerely,

HEATH COMPANY
Benton Harbor, Michigan 49022

Prices and specifications subject to change without notice.

Assembly and Operation of the



INTERCOM INDOOR REMOTE STATION MODEL GD-120

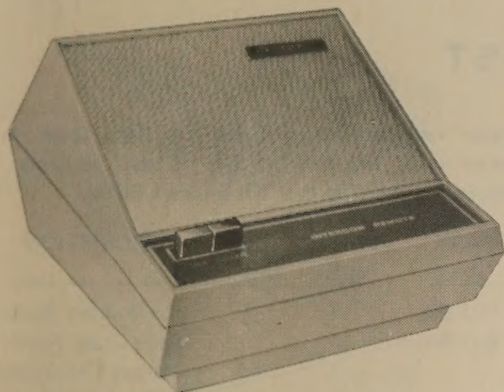


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HEATH COMPANY
BENTON HARBOR, MICHIGAN 49022

INTRODUCTION

The Heathkit Model GD-120 Intercom Indoor Remote Station contains a Talk switch, a Dictate switch, and a 45 Ω speaker mounted in an attractive cabinet.

Six of these Indoor Remote Stations can be used with the Model GD-110 Master Station*. Four of these stations can be either private or non-private, and the other two stations are private only. A private station can call the Master at any time, but cannot be heard at the Master except when the private station's Talk or Dictate switch is depressed. A non-private station can be heard at the Master any time the Master selects that station. It can also initiate calls to the Master even if the Master is not switched to that station.

The 3" x 5" weatherproof combination speaker-microphone provides excellent sound reproduction. Plastic feet on the cabinet bottom allow you to use the Indoor Remote Station on a desk top, table, or shelf. Two optional mounting holes are provided in the rear of the cabinet for wall-mounting the unit or for use on a desk or shelf.

Modern low-silhouette styling with mist green and silver colors make this unit an attractive addition to any surroundings.

Refer to the "Kit Builders Guide" for complete information on unpacking, parts identification, tools, wiring, soldering, and step-by-step assembly procedures.

*NOTE: The Heathkit Model GD-110 Intercom Master Station can be connected to six other stations. These other stations may include:

- Other Model GD-110 Master Stations (private).
- Model GD-120 private (or non-private) Remote Stations.
- Model GD-130 non-private Remote Stations.

Note also that 4-conductor intercom cable can be ordered from the Heath Company (see below). Be sure to determine your interstation wire needs carefully before ordering.

PARTS LIST

Check each part against the following list. The key numbers correspond to the numbers in the Parts Pictorial.

KEY PART		PARTS Per Kit	PRICE Each	DESCRIPTION
No.	No.			
1	250-186	2	.05	#4 x 3/8" sheet metal screw
2	250-284	2	.05	#6 x 1/2" sheet metal screw
3	250-347	2	.05	#6 x 1" sheet metal screw
4	250-249	4	.10	6-32 x 5/8" square head screw
5	250-388	2	.05	#6 x 1-1/2" wood screw
6	254-6	4	.05	#6 lockwasher
7	252-3	4	.05	6-32 nut
8	75-138	4	.10	Plastic foot
9	64-56	1	2.50	2-button switch assembly
10	431-17	1	.20	5-lug terminal strip
	344-50	1	.05/ft	Hookup wire
11	92-58	1	.60	Cabinet top
12	92-74	1	1.20	Cabinet bottom
13	209-65	1	.85	Grille
14	203-769	1	.25	Escutcheon
15	401-146	1	3.70	Speaker
	390-341	1	.10	Heath label
	391-34	1		Blue and white label

To order replacement parts, use the Parts Order Form furnished with this kit. If one is not available, see "Replacement Parts" in the "Kit Builders Guide."

KEY PART		PARTS Per Kit	PRICE Each	DESCRIPTION
No.	No.			
	597-308	1		Kit Builders Guide
	597-260	1		Parts Order Form
		1	2.00	Manual (See front cover for part number.)
				Solder (Additional 3' rolls of solder, #331-6, can be ordered for 15 cents each.)

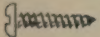
The following Intercom cable can be ordered from Heath Company for the Heathkit Model GD-120:

Intercom Wire Pack Model GDA-110-2, 100 feet of 4-conductor cable.

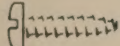
The above prices apply only on purchases from the Heath Company where shipment is to a U.S.A. destination. Add 10% (minimum 25 cents) to the price when ordering from a Heathkit Electronic Center to cover local sales tax, postage and handling. Outside the U.S.A. parts and service are available from your local Heathkit source and will reflect additional transportation, taxes, duties and rates of exchange.

PARTS PICTORIAL

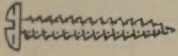
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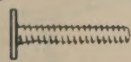
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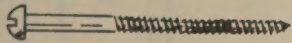
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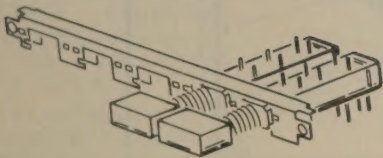
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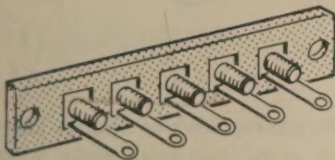
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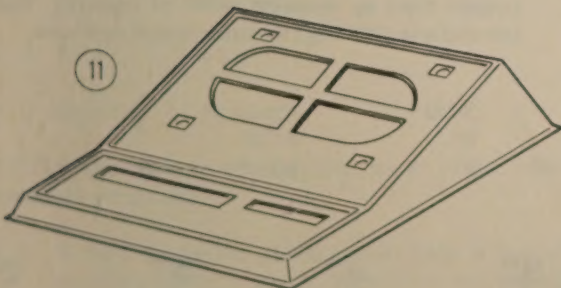
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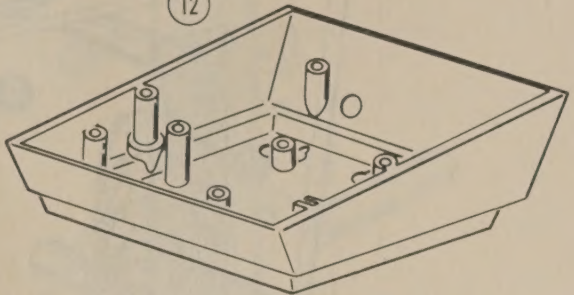
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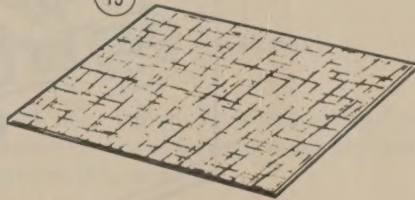
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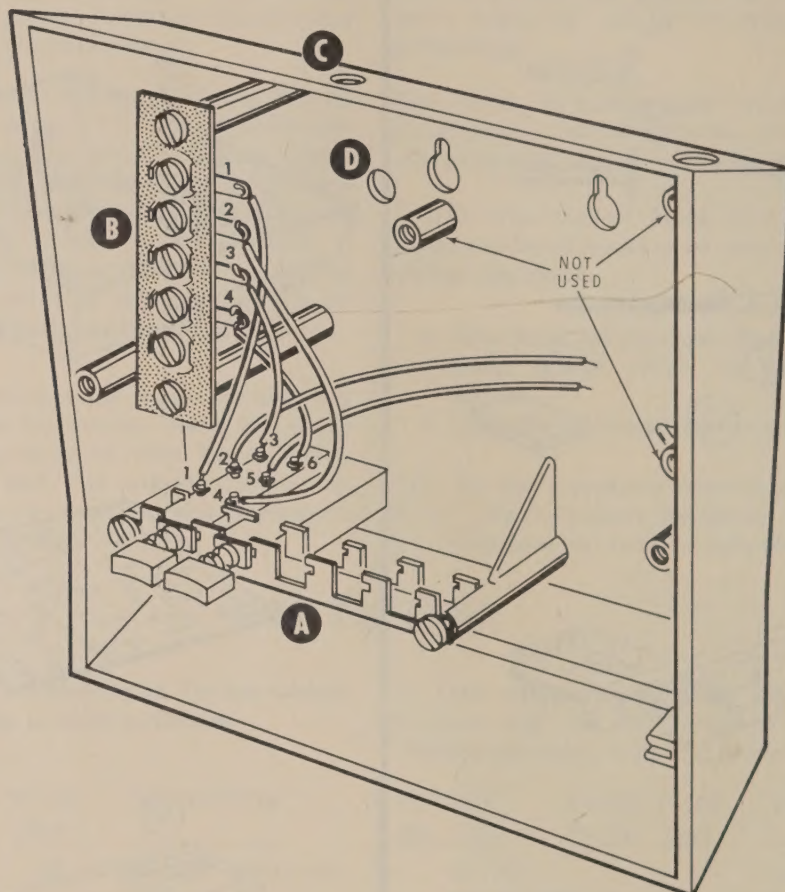
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15



STEP-BY-STEP ASSEMBLY



PICTORIAL 1

Before starting to assemble this kit, be sure you have read the wiring, soldering, and step-by-step assembly information in the "Kit Builders Guide."

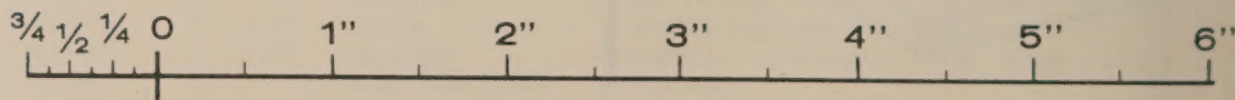
Refer to Pictorial 1 for the following steps.

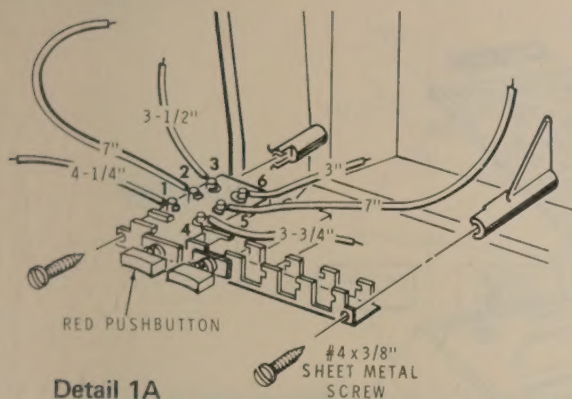
- () Select the position this Remote Station will be used in; vertical for wall-mounting or horizontal for desk, table, or shelf use.
- () Using a small knife (such as a hobby knife), cut through the wire entrance hole at location D if the

remote is wall-mounted or through location C if the remote is to be used horizontally, as on a desk or shelf.

- () Cut the following lengths of hookup wire. Then prepare them by removing 3/16" of insulation from one end and 1/4" from the other end of each wire.

3-1/2"	7"
3"	4-1/4"
7"	3-3/4"





Detail 1A

Refer to Detail 1A for the following steps.

- () Position the 2-button switch assembly on your work area as shown.

NOTE: In this kit only the switch with the red pushbutton will be connected. The switch with the black pushbutton serves as a release trigger for the red pushbutton switch.

FOR GOOD SOLDERED CONNECTIONS, YOU MUST KEEP THE SOLDERING IRON TIP CLEAN...

WIPE IT OFTEN WITH A DAMP SPONGE OR CLOTH.

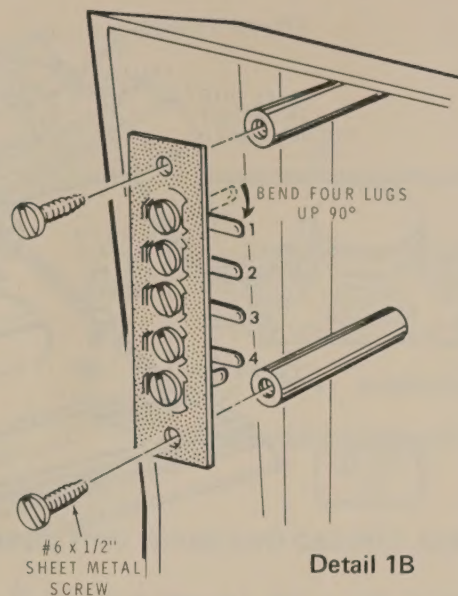


Form a hook in the 3/16" prepared ends of the wires and connect them as follows to the lugs of the switch with the red pushbutton. The other ends of the wires will be connected later.

WIRE	TO SWITCH PINS
() 3-1/2"	#3 (S-1).
() 3"	#6 (S-1).
() 7"	#2 (S-1).
() 7"	#5 (S-1).
() 4-1/4"	#1 (S-1).
() 3-3/4"	#4 (S-1).

NOTE: The three short mounting bosses in the cabinet bottom are not used.

- () Position the switch assembly at location A over the mounting bosses as shown. Then install the assembly with #4 x 3/8" sheet metal screws.



Detail 1B

Refer to Detail 1B for the following steps.

- () Bend four lugs of the 5 lug terminal strip up 90 degrees so they are parallel to the fiber portion of the terminal strip, as shown.

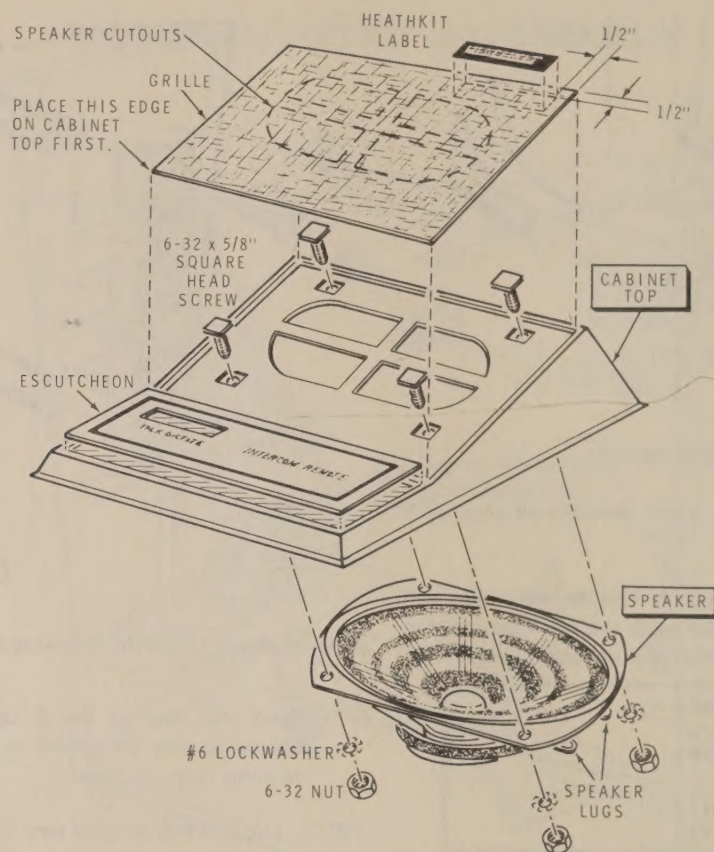
NOTE: Lug 5 of this terminal strip will not be used.

- () Install the 5-lug terminal strip on the mounting bosses at B with #6 x 1/2" sheet metal screws.

Connect the wires coming from switch assembly lugs 1, 4, 3, and 6 to the 5-lug terminal strip in the following manner as shown in the Pictorial. The wires from lugs 2 and 5 will be connected later.

CONNECT THE WIRE FROM SWITCH LUG	TO TERMINAL STRIP LUG
() #1	#1 (S-1).
() #4	#2 (S-1).
() #3	#3 (S-1).
() #6	#4 (S-1).

CAUTION: Handle the speaker carefully in the next step so that you do not puncture the paper cone.



PICTORIAL 2

Refer to Pictorial 2 for the following steps.

- () Mount the speaker to the cabinet top with four 6-32 x 5/8" square head screws, #6 lockwashers, and 6-32 nuts.

NOTE: In the following step, position the grille so that the speaker cutouts are located toward the top of the cabinet.

- () Carefully peel away the backing from the grille. Then press the grille into place on the front of the cabinet top. Do not press on the grille in the area of the speaker cutouts, as the grille can be dented there.
- () Remove the backing from the Heathkit label. Press the label onto the grille in the location shown.
- () Remove the thin covering and the backing from the escutcheon and carefully press the escutcheon into place on the cabinet top as shown.

Refer to Pictorial 3 for the following steps.

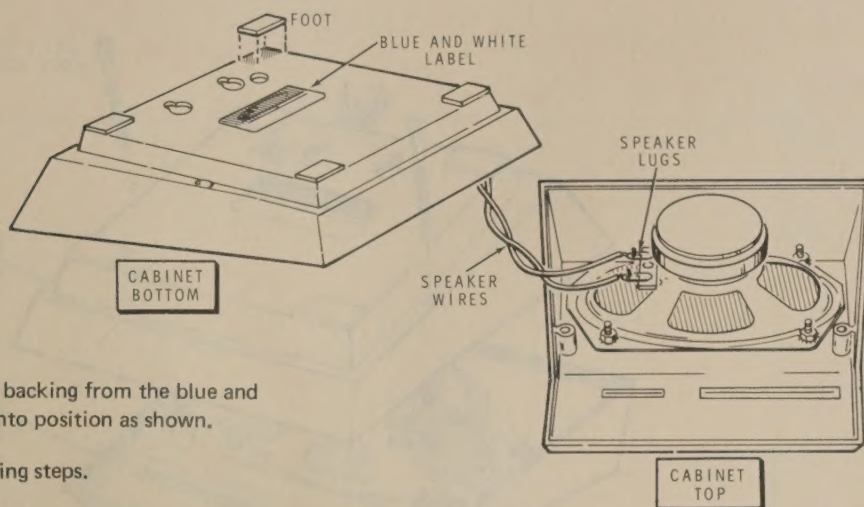
- () Position the cabinet top and cabinet bottom as shown.
- () Connect the wire coming from switch lug #2 to either speaker lug (S-1). Connect the wire coming from switch lug #5 to the other speaker lug (S-1).

NOTE: This completes the wiring of your Indoor Remote Station. Carefully inspect it for loose wires or unsoldered connections. Remove any wire clippings or solder splashes that may be lodged in the wiring.

- () Remove the backing from the rubber feet and press the feet onto the cabinet bottom at the corners as shown.

NOTE: The blue and white label which will be installed in the following step shows the Model number and the Production Series number of your kit. Refer to these numbers in any communications with the Heath Company about this kit.

PICTORIAL 3



- () Carefully remove the paper backing from the blue and white label. Press the label into position as shown.

Refer to Pictorial 4 for the following steps.

NOTE: Detailed information on how to connect this unit into your Heathkit intercom system is given in the "Installation" section of the Model GD-110 Master Intercom Station Manual.

If the unit is to be wall-mounted, use the following steps. If it is to be used on a desk or shelf, disregard these steps and proceed to "Connecting Wires and Cabinet Assembly."

WALL-MOUNTING

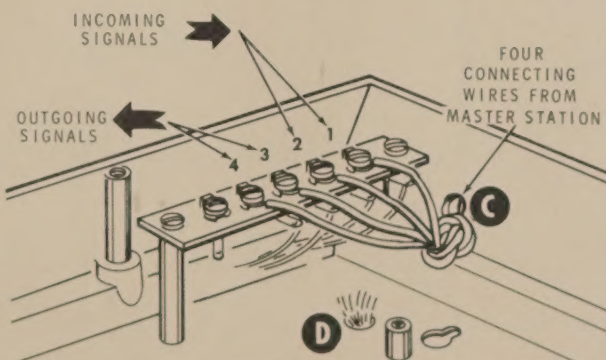
- () Choose a location for the unit where it is clear of door frames, window frames, or other objects. Then detach the wall-mounting template from Pictorial 6 (fold-out from Page 9) and tape it to the wall location.
- () Mark the holes for the intercom wires and the two mounting screws using a pointed object such as a nail or awl.
- () Drill a 3/8" diameter hole for the wires, and two 1/8" diameter, 7/8" deep holes for the mounting screws.
- () Route the four connecting wires coming from the master station terminal board through the 3/8" diameter hole.
- () Install the two #6 x 1" sheet metal screws until the screw heads are 1/4" from the wall.
- () Route the four wires that come from the master station terminal board through hole D on the back of the cabinet.
- () Place the cabinet bottom on the screws.

CONNECTING WIRES AND CABINET ASSEMBLY

- () If the unit is used on a desk or shelf, route the four connecting wires that come from the master station terminal board through hole C into the cabinet.

NOTE: The following steps apply both to wall-mounted units and to units used on a desk or shelf.

- () Tie a knot in the four wires inside the cabinet as shown.
- () Connect these wires to terminal screws 1, 2, 3, and 4 as shown.

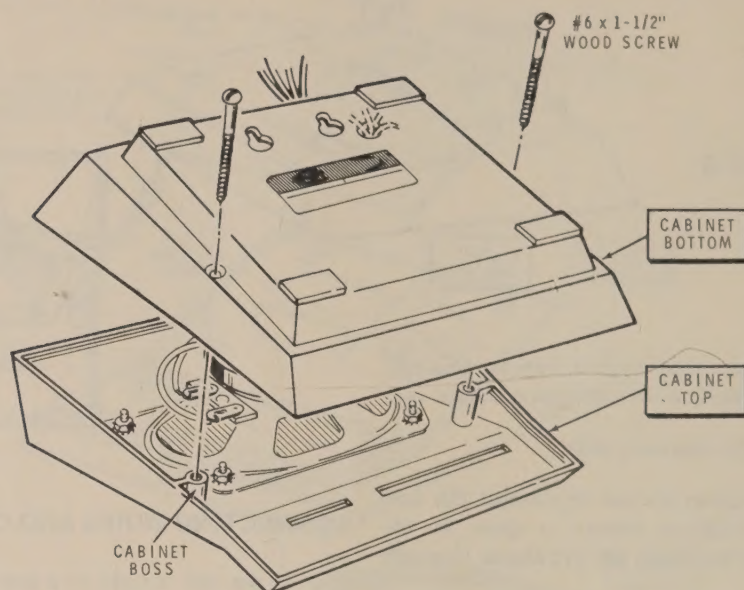


PICTORIAL 4

WHEN THIS REMOTE UNIT IS USED WITH A GD-110 MASTER:

TERMINALS 1 AND 2 ON THE REMOTE UNIT NORMALLY GO TO D AND F TERMINALS ON THE MASTER FOR PRIVATE OPERATION, OR TO E AND F TERMINALS FOR NON-PRIVATE OPERATION.

TERMINALS 3 AND 4 ON THE REMOTE UNIT NORMALLY GO TO B AND C TERMINALS ON THE MASTER.

**PICTORIAL 5**

Refer to Pictorial 5 for the following steps.

- () Position the cabinet top and cabinet bottom together as shown so the two holes in the cabinet bottom match the bosses in the cabinet top. Fasten the top and bottom together with two #6 x 1-1/2" wood

screws as shown. Be sure the two speaker wires are inside the cabinet before tightening the screws.

This completes the assembly and mounting of your Intercom Indoor Remote Station.

OPERATION

For private operation:

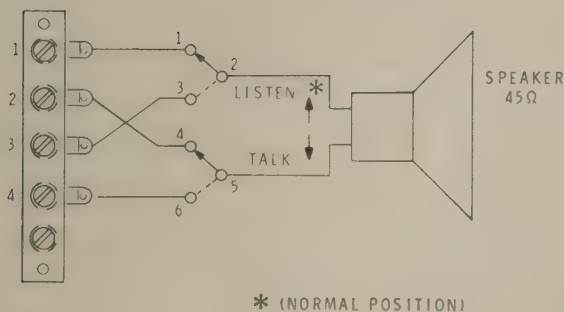
- Leave the TALK switch in its normal "up" position to listen.
- To talk, press down on the TALK switch. The operator at the master station will hear you even if he is not switched to your station.

For non-private operation with the Model GD-110 Master the operator of this station can both talk and listen with his

TALK switch in the LISTEN position. He can also initiate a call to the master by pressing down on the TALK switch while he talks; the Master will receive this call even if his Station switch is pressed for another station. In this type of operation (non-private), the master can listen to a Remote Station at any time by just pressing the Station switch for that station.

The DICTATE button holds down the TALK switch for "hands off" operation.

SCHEMATIC OF THE HEATHKIT® INTERCOM INDOOR REMOTE STATION MODEL GD-120



IN CASE OF DIFFICULTY

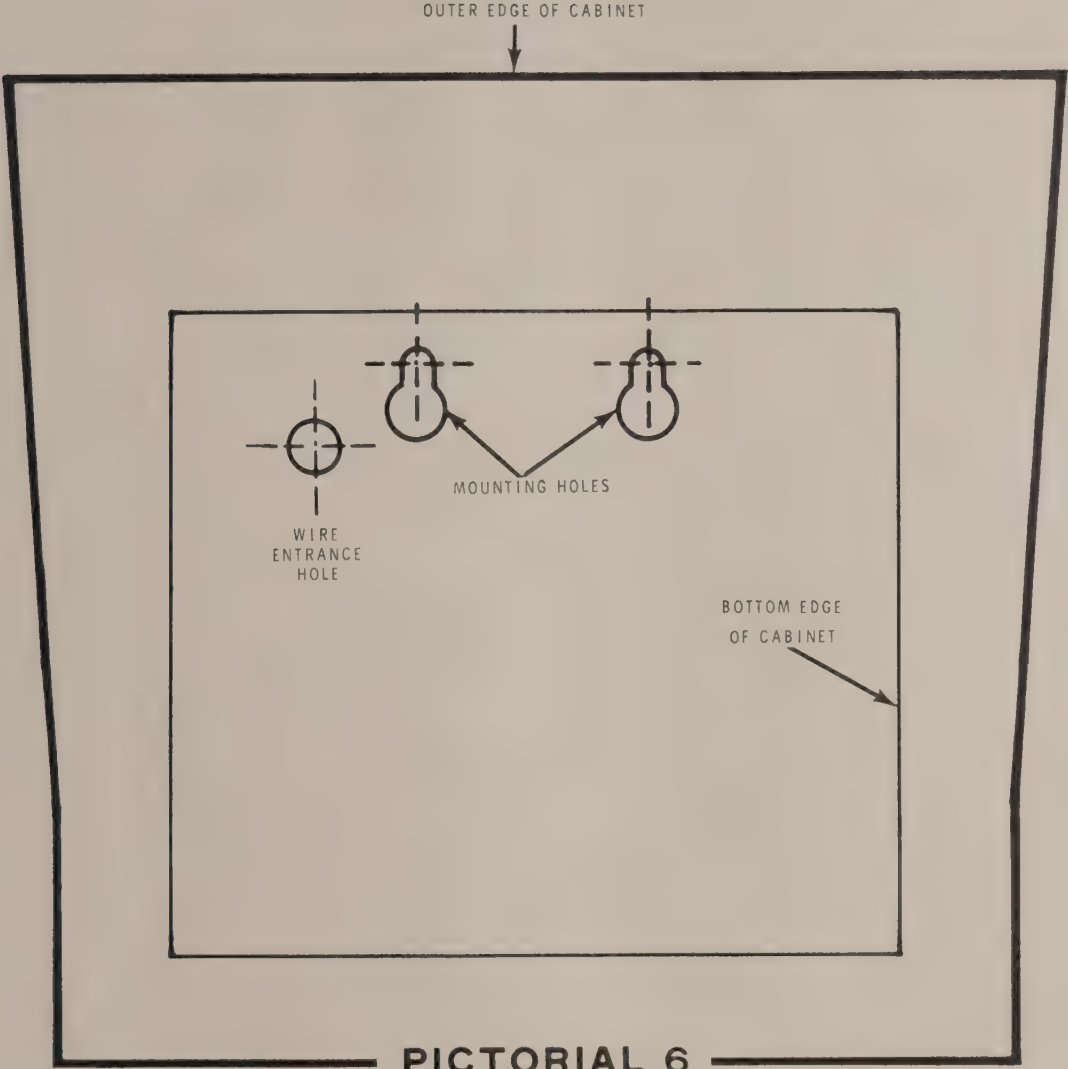
Use the following steps to locate and correct any difficulty.

1. Recheck the wiring. Trace each lead in colored pencil on the Pictorial as it is checked. It is frequently helpful to have a friend check your work. Someone who is not familiar with the unit may notice something consistently overlooked by the kit builder.
2. About 90% of the kits that are returned to the Heath Company for repair do not function properly due to poor connections and soldering. Therefore, many troubles can be eliminated by reheating all

connections to make sure that they are soldered as described in the "Soldering" section of the Kit Builders Guide.

3. Check for bits of solder, wire ends, or other foreign matter which may be lodged in the wiring.

NOTE: In an extreme case where you are unable to resolve a difficulty, refer to the "Service" section and the Warranty of the "Kit Builders Guide," and to the "Factory Repair Service" information on Page 10 of this Manual.



PICTORIAL 6

WALL MOUNTING TEMPLATE
(FULL SIZE)

SPECIFICATIONS

System Connections	Designed for use with the Heathkit Model GD-110 Intercom Master Station.
Speaker	3" x 5" weatherproof, 45 Ω impedance.
Maximum Wire Length to Master	1000 feet (Using Heath GDA-110-2 Intercom cable.)
Number of Wires	4.
Cabinet Size	Overall 3-3/4" high x 6" wide x 5-3/4" deep.
Net Weight	1 lb. 2 oz.

The Heath Company reserves the right to discontinue products and to change specifications at any time without incurring any obligation to incorporate new features in products previously sold.

FACTORY REPAIR SERVICE

You can return your completed kit to the Heath Company Service Department to have it repaired for a minimum service fee. (Kits that have been modified will not be accepted for repair.) Or, if you wish, you can deliver your kit to a nearby Heathkit Electronic Center. These centers are listed in your Heathkit catalog.

To be eligible for replacement parts under the terms of the warranty, equipment returned for factory repair service, or delivered to a Heathkit Electronic Center, must be accompanied by the invoice or the sales slip, or a copy of either. If you send the original invoice or sales slip, it will be returned to you.

If it is not convenient to deliver your kit to a Heathkit Electronic Center, please ship it to the factory at Benton Harbor, Michigan and observe the following shipping instructions:

Prepare a letter in duplicate, containing the following information:

- Your name and return address.

- Date of purchase.
- A brief description of the difficulty.
- The invoice or sales slip, or a copy of either.
- Your authorization to ship the repaired unit back to you C.O.D. for the service and shipping charges, plus the cost of parts not covered by the warranty.

Attach the envelope containing one copy of this letter directly to the unit before packaging, so that we do not overlook this important information. Send the second copy of the letter by separate mail to Heath Company, Attention: Service Department, Benton Harbor, Michigan.

Check the equipment to see that all parts and screws are in place. Then, wrap the equipment in heavy paper. Place the equipment in a strong carton, and put at least THREE INCHES of resilient packing material (shredded paper, excelsior, etc.) on all sides, between the equipment and the carton. Seal the carton with gummed paper tape, and tie it with a strong cord. Ship it by prepaid express, United Parcel Service, or insured parcel post to:

Heath Company
Service Department
Benton Harbor, Michigan 49022

EXPEDITED PARTS ORDER FORM

(FOR REPAIR PARTS ONLY)

PLEASE DO NOT WRITE IN THIS SPACE

NAME _____

ADDRESS _____

CITY _____ STATE _____ ZIP _____

KIT MODEL

PURCHASE DATE

INVOICE NUMBER

LOCATION PURCHASED

SEND TO: **HEATH COMPANY**

BENTON HARBOR,
MICHIGAN 49022

ATTN PARTS REPLACEMENT

QTY.	HEATH PART NUMBER	DESCRIPTION OF PART	PRICE	TOTAL PRICE	DESIRED METHOD OF SHIPMENT

EDITORS INITIALS

INSTRUCTIONS:

- INCLUDE CHECK OR MONEY ORDER FOR TOTAL PARTS ORDERED ADD 10% (MINIMUM \$0.25) FOR INSURANCE, POSTAGE AND HANDLING.
- AUTHORIZE PERMISSION FOR C.O.D. SHIPMENT (MINIMUM ORDER SHIPPED C.O.D. IS \$10.00).
- MICHIGAN RESIDENTS ADD 4% SALES TAX

C.O.D. AUTHORIZATION

SIGNED _____

THIS FORM IS FOR U.S. CUSTOMERS ONLY. OVERSEAS CUSTOMERS SEE YOUR DISTRIBUTOR.

CUT ALONG DOTTED LINE

EXPEDITED PARTS ORDER FORM

(FOR REPAIR PARTS ONLY)

PLEASE DO NOT WRITE IN THIS SPACE

NAME _____

ADDRESS _____

CITY _____ STATE _____ ZIP _____

KIT MODEL

PURCHASE DATE

INVOICE NUMBER

LOCATION PURCHASED

SEND TO: **HEATH COMPANY**

BENTON HARBOR,
MICHIGAN 49022

ATTN PARTS REPLACEMENT

QTY.	HEATH PART NUMBER	DESCRIPTION OF PART	PRICE	TOTAL PRICE	DESIRED METHOD OF SHIPMENT

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- MICHIGAN RESIDENTS ADD 4% SALES TAX

C.O.D. AUTHORIZATION

SIGNED _____

THIS FORM IS FOR U.S. CUSTOMERS ONLY. OVERSEAS CUSTOMERS SEE YOUR DISTRIBUTOR.

CUSTOMER SERVICE

REPLACEMENT PARTS

If you need a replacement part, please fill in the Parts Order Form that is furnished and mail it to the Heath Company. Or, if you write a letter, include the:

- Part number and description as shown in the Parts List.
- Model number and Series number from the blue and white label.
- Date of purchase.
- Nature of the defect.

Please do not return parts to the factory unless they are requested. Parts that are damaged through carelessness or misuse by the kit builder will not be replaced without cost, and will not be considered in warranty.

Parts are also available at the Heathkit Electronic Centers listed in your catalog. Be sure to provide the Heath part number. Bring in the original part when you request a warranty replacement from a Heathkit Electronic Center.

NOTE: Replacement parts are maintained specifically to repair Heathkit products. Parts sales for other reasons will be declined.

TECHNICAL CONSULTATION

Need help with your kit? Self-Service? Construction? Operation? Call or write for assistance. You'll find our Technical Consultants eager to help with just about any technical problem except "customizing" for unique applications.

The effectiveness of our consultation service depends on the information you furnish. Be sure to tell us:

- The Model number and Series number from the blue and white label.
- The date of purchase.
- An exact description of the difficulty.
- Everything you have done in attempting to correct the problem.

Also include switch positions, connections to other units, operating procedures, voltage readings, and any other information you think might be helpful.

Please do not send parts for testing, unless this is specifically requested by our Consultants.

Hints: Telephone traffic is lightest at midweek. . . please be sure your Manual and notes are on hand when you call.

Heathkit Electronic Center facilities are also available for telephone or "walk-in" personal assistance.

REPAIR SERVICE

Service facilities are available, if they are needed, to repair your completed kit. (Kits that have been modified, soldered with paste flux or acid core solder, cannot be accepted for repair.)

If it is convenient, personally deliver your kit to a Heathkit Electronic Center. For warranty parts replacement, supply a copy of the invoice or sales slip.

If you prefer to ship your kit to the factory, attach a letter containing the following information directly to the unit:

- Your name and address.
- Date of purchase.
- Copies of all correspondence relevant to the service of the kit.
- A brief description of the difficulty.
- Authorization to return your kit C.O.D. for the service and shipping charges. (This will reduce the possibility of delay.)

Check the equipment to see that all screws and parts are secured. (Do not include any wooden cabinets or color television picture tubes, as these are easily damaged in shipment.) Place the equipment in a strong carton with at least THREE INCHES of *resilient* packing material (shredded paper, excelsior, etc.) on all sides. Use additional packing material where there are protrusions (control sticks, large knobs, etc.). If the unit weighs over 15 lbs., place this carton in another one with 3/4" of packing material between the two.

Seal the carton with reinforced gummed tape, tie it with a strong cord, and mark it "Fragile" on at least two sides. Remember, the carrier will not accept liability for shipping damage if the unit is insufficiently packed. Ship by prepaid express, United Parcel Service, or insured Parcel Post to:

Heath Company
Service Department
Benton Harbor, Michigan 49022

HEATH COMPANY

BENTON HARBOR, MICHIGAN

MP MASTER



MA22785

THE WORLD'S FINEST ELECTRONIC EQUIPMENT IN KIT FORM

LITHO IN U.S.A.